DOCUMENT RESUME

ED 414 409 CE 075 105

AUTHOR Law, Song Seng
TITLE Dynamics and Challenges of a Vocational Training System--The Singapore Experience. ITE Paper No. 2.
INSTITUTION Institute of Technical Education (Singapore).
PUB DATE 1996-10-00
NOTE 29p.; Paper presented at the International Conference, A Skills Respect Culture--A Way forward to a Winning Nation (Johannesburg, South Africa, October 10-11, 1996).
PUB TYPE Opinion Papers (120) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Programs; Apprenticeships; Continuing Education; *Education Work Relationship; *Educational Change; Educational History; *Educational Needs; Educational Philosophy; *Educational Practices; Educational Trends; Foreign Countries; Job Training; Labor Force Development; On the Job Training; Program Development; *Systems Approach; Technical Institutes; Two Year Colleges; *Vocational Education
IDENTIFIERS *Singapore

ABSTRACT

Vocational and technical training in Singapore has a relatively short history. Only after Singapore became independent did the need to formalize a national system of training to support the labor force needs of industrialization become evident. Singapore's first vocational institute was established in 1964. The system has experienced several significant phases of development, the most recent being the upgrading of vocational training to a postsecondary institution under the Institute of Technical Education (ITE) in 1992. Among the ITE's principal functions are the following: preemployment training for secondary school leavers; full-time institutional training; apprenticeship training; continuing education and training for working adults; worker education; worker skills training; industry-based training; customized skills training; certified on-the-job training (OJT) through the Certified OJT Training Centre Scheme; and responsibility for conducting national certification and public trade tests. Singapore's vocational and technical training system faces a number of challenges and constraints. The major factors shaping technical education and training in Singapore are as follows: the country's limited natural and human resources; the declining rate of growth of the work force; large numbers of older workers with lower levels of education and skills; increasing global competitiveness; and the continual upgrading and restructuring of the country's industries. (MN)

DYNAMICS AND CHALLENGES OF A VOCATIONAL TRAINING SYSTEM - THE SINGAPORE EXPERIENCE

DR. LAW SONG SENG
Director & Chief Executive Officer
Institute of Technical Education
SINGAPORE

DYNAMICS AND CHALLENGES OF A VOCATIONAL TRAINING SYSTEM – THE SINGAPORE EXPERIENCE

DR LAW SONG SENG
Director & Chief Executive Officer
Institute of Technical Education
SINGAPORE

ITE Paper No 2, 1996

This paper was first presented at International Conference 'A Skills Respect Culture - A Way Forward to a Winning Nation', Johannesburg, South Africa, 10 - 11 October 1996.

It is reprinted as an ITE Paper in view of its professional interests to others in the vocational and technical training field.

CONTENTS

5

ABSTRACT

A vocational and technical training system aimed at meeting the needs of industry is by its very nature dynamic. The training system has to be reviewed and restructured periodically in order to remain relevant to the social and economic needs of the country. This paper identifies and discusses the recent challenges faced in vocational training development in Singapore and thereby provides an insight on the underlying philosophy, decisions and rationale which helped to shape the system of training.

INTRODUCTION

1 Singapore is a young nation with less than three million people on a small island of 650 sq km. Strategically located in South-East Asia, much has been achieved politically, socially and economically since independence some thirty years ago. Singapore today is a modern city state, an advanced developing economy and global centre for industry, business, finance and communications.

2 Likewise, vocational and technical training in Singapore has a relatively short history. It was after independence that saw the urgency for formalising a national system of training to support the manpower needs of industrialisation. The system has evolved through several significant phases of development, the most recent being the upgrading of vocational training to a post-secondary institution under the Institute of Technical Education (ITE) in 1992. ITE is the national authority and government agency responsible for vocational and technical training in Singapore.

3 Vocational and technical training plays a crucial role in the social and economic development of a nation. It is a dynamic system. There are many challenges and possibilities. But what constitute an effective training system? What are the options in accommodating the diversity of needs of different economies and cultural systems? What are the motivations? How can the goals and objectives be translated into reality?

4 The purpose of this paper is to address some of these questions by sharing Singapore's experience and thereby providing an insight on the underlying philosophy, development and rationale which have helped to shape the system of vocational and technical training in Singapore.

HISTORICAL PERSPECTIVE

5 When Singapore attained self-government in 1959 and subsequently independence in 1965, it became apparent that the traditional trading, commerce and service sectors alone could not provide sufficient jobs for the growing number of school leavers. The plan was to diversify and accelerate economic growth through industrialisation. Thus, an increasing emphasis was placed on technical education and vocational training.

6 The first vocational institute was set up within the school system in 1964. With the increasing pace of industrialisation, there was a growing concern on how best to expedite and expand the vocational training system to meet the manpower requirements of the emerging industries. Along with this trend, apprenticeship training schemes were transferred from the Ministry of Labour to the Technical Education Department (TED) of the Ministry of Education. By 1972, there were 9 vocational institutes. The annual output of graduates increased over ten-fold from 324 in 1968 to over 4,000.

7 By 1973, the TED had developed a training infrastructure which was ready for its next phase of development. At this junction, it was considered necessary to set up a separate authority which could better respond to the needs of the rapidly developing industries. The Industrial Training Board (ITB) was thus created in 1973 to centralise, coordinate and intensify industrial training. This development marks the formalisation of a system of vocational training outside the school system in Singapore.

8 Meanwhile, the Adult Education Board (AEB), which was set up in 1960 to meet the educational needs of workers, had also witnessed changes in its programmes. As educational opportunities for the school-going age population increased, the need for AEB's langauge and academic education programmes diminished. The growth of community centres also reduced the demand for its recreational and cultural programmes. The AEB began to concentrate more on vocation-oriented

programmes to complement vocational and industrial training. It soon became apparent that the domains of the AEB and ITB were inseparable components of a system for the training of school leavers and upgrading of the occupational skills of adult workers. It was therefore decided in 1979 that these two Statutory Boards should be merged to rationalise their functions and resources for greater effectiveness.

9 Thus, the Vocational and Industrial Training Board (VITB) was formed as a Statutory Board in 1979. Efforts were then focused on further expanding the system of training, developing new programmes for school leavers and workers and improving the quality of the training environment. Full-time enrolment increased from less than 10,000 to over 17,000 in 1989. The response to worker education and training was also significant. The result was an integrated and comprehensive Continuing Education and Training (CET) system which by 1991 was offering some 100,000 training places to about 60,000 workers a year.

10 The most significant development in the history of vocational training in Singapore, however, was the establishment of the ITE as a post-secondary institution in 1992. This response to changes in the education system and changing needs in society and the workplace was crucial and necessary to ensure that Singaporean workers are better educated and trained to meet the needs of the global economy in the 21st century. So, within a period of thirty years, the system of vocational training was restructured three times or an average of a major restructuring in every 10 years.

INSTITUTE OF TECHNICAL EDUCATION (ITE)

11 The Institute of Technical Education is an integral part of the national system of education and training in Singapore as illustrated in Figure 1. ITE is the national body responsible for vocational and technical training of school leavers and working adults. Other post-secondary and tertiary institutions include the junior colleges, polytechnics and universities. Primary and secondary schools provide the basic 10 years of education to all pupils before proceeding to further education and training. As the national objective is to maximize the potential of all Singaporeans, the system provides for streaming in schools and opportunities for progression depending on individual interests, aptitude and potential. According to national targets, about 25% of a school cohort after completing secondary schooling will proceed to the junior colleges, 40% to the polytechnics and 25% to the technical institutes of ITE.

Mission and Principal Functions

12 The mission of ITE is "To maximise the human potential of Singaporeans through excellence in technical education and training so as to develop the quality of workforce and enhance Singapore's global competitiveness".

13 ITE's principal functions are:

- To promote and provide technical training to secondary school-leavers;
- To upgrade the technical skills of the workforce through continuing education and training;
- To promote and regulate industry-based training and education in technical skills; and
- To regulate and develop the certification and standards of technical skills;

14 In order to meet the mission and goals of vocational and technical training, an integrated and comprehensive ITE system comprising 4 main programmes has been developed over the years as follows:

- Full-time institutional training courses for secondary school leavers;
- Part-time Continuing Education and Training (CET) courses for workers (BEST, WISE, MOST, TIME, ACTS and continuing education);
- Industry-based training by employers (apprenticeship schemes, approved training centres and certified OJT centres); and
- National skills certification and public trade test systems.

Pre-Employment Training for School Leavers

15 ITE provides pre-employment training to school leavers through two main approaches, viz, full-time institutional training in an ITE institute and apprenticeship training in partnership with companies. ITE takes in 10,000 students a year and has an enrolment capacity of 16,000 students. The total number of school leavers trained to date, by ITE and its predecessor institutions, is about 140,000.

Full-Time Institutional Training

16 Full-time institutional training is the mainstay of the ITE system. ITE operates a system of 11 technical institutes which offers a wide range of engineering, business studies and technical skills courses for GCE 'O' and 'N' level school leavers. The following levels of certification are presently offered.

Certification		Duration/Entry Qualification
16.1	Industrial Technician Certificate (ITC)	2-year/GCE 'O' level
16.2	Certificate in Business Studies (CBS)	2-year/GCE 'O' level
16.3	National Technical Certificate (NTC)	2-year/GCE 'O' and 'N' levels
16.4	Certificate in Office Skills (CoS)	1-year/GCE 'O' and 'N' levels

The 25 full-time courses are shown in Table 1.

Apprenticeship Training

17 The ITE apprenticeship system is modelled after Germany's Dual Training System. Introduced as an "Earn-As-You-Learn" scheme to complement the full-time training system, it comprises On-the-Job Training (OJT) and Off-the-Job Training (Off-JT). OJT is provided by the company in which the apprentice is employed. The Off-JT component, comprising theoretical classroom instruction and workshop practice, is conducted in an ITE institute or an approved industry training centre. Apprenticeship offers a wider range of training options to match the interests and aptitude of school leavers. Apprenticeship also has the flexibility to better respond to companies which need more specialised skills.

18 ITE currently has 70 apprenticeship programmes, leading to certification at the National Technical Certificate Grades 2 and 3 (NTC-2 and NTC-3) and other certificates of competencies and service skills, examples of which are shown in Table 2.

Continuing Education and Training for Working Adults

19 The second area of priority for ITE is CET. Over the years, an integrated and comprehensive system of CET for workers to acquire or upgrade their education and skills has been developed, as shown in Figure 2. ITE also collaborates with industry and trade unions to provide upgrading opportunities for workers through Industry-Based Training, Customised Skills Training and Certified OJT Centres. The various CET programmes, the year of launching and target groups of participants are shown in Table 3.

Worker Education

20 ITE offers two national worker education programmes, namely, the Basic Education for Skills Training (BEST) and Worker Improvement through Secondary Education (WISE), for workers who need a basic education as a foundation for skills upgrading and retraining. Both BEST and WISE are offered in four six-monthly modules during office hours, evenings and weekends through a network of institutions involving ITE institutes, company training centres and other union educational centres.

21 BEST, introduced in 1983, aims to upgrade the education of workers in English Language and Mathematics up to Primary Six level. To date, some 200,000 workers have attended at least one module of BEST. WISE, introduced in 1987, is modelled after BEST and provides worker education in English Language and Mathematics up to Secondary 4 level. Since inception, some 70,000 workers have enrolled for at least one module of WISE.

22 ITE also offers part-time and weekend Continuing Education (CE) programmes from Secondary 1 to GCE 'N', 'O' and 'A' levels. These programmes provide working adults with the opportunity to acquire a higher level of general education. To date, some 118,000 workers had attended at least one CE programme.

Worker Skills Training

23 Skills training programmes are designed for the upgrading of workers who wish to acquire a new skill, upgrade their existing skills or update skills because of changing technology. Technical skills is delivered through three major programmes viz, the Modular Skills Training (MOST), Training Initiative for Mature Employees (TIME) and Adult Co-operative Training Scheme (ACTS), developed for specific groups of workers.

24 MOST, launched in 1986, offers courses in six-monthly modules and is conducted in the evenings and on weekends to allow workers to gain new skills with minimum disruption to their jobs. ITE offers a range of 128 modules of skills training leading to certification at NTC-2, NTC-3 and Certificate of Competency (CoC) levels under MOST. Working adults either finance themselves or are sponsored by employers or the unions for the courses. MOST has, to date, benefitted some 50,000 workers.

25 TIME is a special initiative launched in 1991 to meet the upgrading requirements of workers aged above 40 years old. This group of workers has been identified to be most vulnerable to changes resulting from economic restructuring and changing technology. TIME is also offered in six-monthly modules but offers a choice of medium of instruction in English, Mandarin, Malay or Tamil. The other unique features of TIME are its open entry system and off-the-job training on company's time. TIME has, to date, benefitted some 1,700 workers.

26 ACTS is an initiative launched in 1992 to enable younger adult workers up to 40 years, who have some relevant skills to achieve a national certification through the apprenticeship mode of training. Workers in the ACTS programme must be fully sponsored by their employers. The duration of training varies depending on the relevant skills the workers may already have. It has, to date, benefitted some 600 workers.

Industry-Based Training

27 Industry-Based Training (IBT) refers to skill-specific training for workers by companies and industry associations with the requisite infrastructure and expertise. This approach has the advantage of having training that is tailored to company needs. Company training centres that meet ITE's requirements in terms of staffing, facilities and curricula may apply to become Approved Training Centres (ATCs) which are authorised to provide training leading to ITE certification. Many of these centres support the apprenticeship schemes. To date, there are 60 ATCs in operation. Since 1990, some 6,420 workers have been trained through these ATCs.

Customised Skills Training

28 Customised skills training is conducted for companies which need specially-tailored programmes for their staff. To date, ITE has conducted 350 courses for 500 companies which benefitted some 6,000 workers.

Certified OJT Training Centre (COJTC) Scheme

29 ITE launched a new Certified OJT Centre (COJTC) Scheme in 1994, to encourage and upgrade the quality of OJT in Singapore. Companies with the commitment and proper infrastructure to conduct structured OJT are certified as COJTCs to plan, design and implement OJT programmes tailored to the needs of their workers. The centres are also authorised to issue OJT certificates of completion of training to their employees. These certificates are recognised by ITE for progression to its NTC courses.

30 The scheme has received strong support from the employers. To date, there are 250 COJTCs with a total workforce of 160,000 workers. Of these, 20,000 have received skills training under the COJTC Scheme. ITE targets to register 500 companies under the scheme by the year 2000.

National Certification and Public Trade Tests

31 ITE has developed a national system of certification for technical skills called the National Technical Certification or NTC system. NTC is a three-tier system with NTC-3 being the basic or semi-skilled level, the NTC-2 represents a skilled worker and NTC-1, the equivalent of a Meister or Master craftsman. The NTC standards are competency-based and commonly applied to full-time, apprenticeship and part-time programmes. The same tests are accessible to public candidates who have acquired the necessary job skills through public trade tests. To date, some 45,000 candidates have been certified through the public test system.

DYNAMICS AND CHALLENGES

32 Each vocational and technical training system comes with its history, motivations and drive towards social and economic development. There are challenges and constraints. This is no different in the experience of Singapore. The dynamics and challenges are best reflected by the key initiatives undertaken since 1980 as listed in Table 4.

33 The development of a good technical training system requires a clear vision, strategic planning, initiatives and effective implementation. The system is constantly subjected to changes arising from and need for responses to the education system, society and industry. The major factors having a significant impact on technical education and training in Singapore are its limited natural and human resources, declining rate of growth in workforce, existing older workers with lower education and skills, increasing global competitiveness and the continual upgrading and restructuring of industries in Singapore.

34 Like a nation, an educational institution is also subjected to the forces of change. It must be ready to seek improvements and upgrade if it were to stay relevant to the needs of the nation and realities of the external environment. The institution has to be committed to the needs of its students, employers in industry who recruit the graduates and the community it serves.

35 Graduates today face a more demanding workplace. Technicians and skilled workers are expected to be better-educated and better-trained. They need to be conversant with the use of information technology and highly automated machinery and production or service systems. With new structures of organisation, the importance of team work and greater focus on productivity, workers at all levels need to have key competencies to work more independently, communicate effectively and be able to adapt to changing technologies.

36 The most important challenge is to ensure that the training system remains relevant and responsive to the nation's changing skilled manpower needs. The system needs to be integrated and yet comprehensive and flexible in accommodating existing and emerging needs of the economy, school leavers and workers. No two systems are the same. But certain fundamental principles, mechanisms and features must be in place to ensure that the training system is adaptable to changing demands and remains relevant to the external environment.

37 So in the case of Singapore, what were some of the key responses to changing needs? It will be seen from Table 4 that the first phases of institutional development began in the 1980's. There was urgency in creating more training places for the increasing number of school leavers. This was also the time when professional expertise in curriculum development, training of trainers and instructional media development was being developed. The next phase of developing close linkages with the schools was crucial to the success in attracting school leavers into the vocational and technical training system. Promotional efforts in schools, automatic registration systems and joint intake exercises are now permanent features of these ITE-school linkages. The next phase was development of specific worker education and training programmes which constitute the major core of the present ITE CET system.

38 An interest in broad-based multi-skills arising from changing demands of industry led to the introduction of broad-based courses such as mechatronics. An important initiative in 1989 in extending the scope of certification was the establishment of a national framework for certifying service skills. Working with lead industry associations, certification was introduced for sectors such as retail, travel, and health care mainly through apprenticeships. A new apprenticeship modelled after the German's dual system of training was introduced in 1990 to strengthen the largely full-time institutional system of training in Singapore. The apprenticeship has widened the options of training areas and increased the ability to better match the interests and aptitude of school leavers.

39 A major review in education and vocational training resulted in a new policy of minimum 10 years general education and the establishment of ITE as a post-secondary institution in 1992. The main objective was to further enhance the technical capability of young Singaporeans entering the workforce. Since then, a system of certified OJT centres was introduced to promote good OJT practices as part of the industry-based training infrastructure in companies.

40 But what are ITE's vision and goals? How and when will ITE be recognised as an established post-secondary technical institution - an institution well-accepted by industry, parents, school leavers and society? How can ITE help develop a quality workforce that is better educated and trained to compete more effectively in the global market? How can workers who are already in the workforce be encouraged to continue to upgrade their skills and adapt to the challenges of a dynamic world economy?

41 In response to these challenges, ITE formulated a strategic plan called "ITE 2000" in 1995. The Plan provides the direction and focus for the further upgrading of the technical training system. Our vision is to become an established post-secondary technical institution by the year 2000. To realise this vision, ITE is focusing its efforts on 5 major goals, namely, an effective, relevant and responsive training system; a physical environment compatible with a post-secondary technical institution; a conducive campus environment; professionally-qualified training staff; and an improved public image and recognition of technical training. These goals are well-supported by 8 strategies and 21 specific programmes crucial to the success of restructuring the vocational training system in Singapore.

CONCLUSION

42 Technical skills and capability are crucial to the social and economic development of a country. A vocational training system is very much an integral part of the national educational system and social fabric of the community it is designed to serve. The system is dynamic as it is subjected to the changing needs of education, society and the economy. Changing demands at the workplace, higher aspirations of young people and the increasing competitive global market pose new challenges and opportunities in shaping the characteristics of a vocational and technical training system.

43 Each system in a sense is unique in its history and development. But lessons could be drawn. In the case of Singapore, vocational training evolved in response to the rapid pace of industrialisation over the last thirty years after independence. To stay relevant and responsive, the system was restructured three times or a major reorganisation once every ten years. Development required a clear vision, strategic planning and effective implementation. Many new initiatives were introduced to reach out to the schools, workers and industry. Today, a system of quality technical education and training is in place. All school leavers and workers who have the interest and aptitude have access through a system of full-time, apprenticeship, part-time Continuing Education and Training and Certified On-the-Job Training.

44 The process of development continues. ITE, as a post-secondary technical institution, will continue to upgrade the training system so as to stay relevant and responsive to the needs of school leavers and workers. Its mission remains the same, that is, "to maximize the human potential of Singaporeans". The "ITE 2000" Plan will provide the focus and direction in building ITE into an established post-secondary technical institution and enhance its role in Singapore's manpower development and continuing economic success.

NOMENCLATURE, FIGURES & TABLES

LIST OF NOMENCLATURE

ACTS	-	Adult Cooperative Training Scheme
AEB	-	Adult Education Board
BEST	-	Basic Education for Skills Training
CoC	-	Certificate of Competency
COJTC	-	Certified On-the-Job Training Centre
CE	-	Continuing Education
CET	-	Continuing Education and Training
GCE 'N'	-	General Certificate of Education 'Normal' level
GCE 'O'	-	General Certificate of Education 'Ordinary' level
IBT	-	Industry-Based Training
ITB	-	Industrial Training Board
ITC	-	Industrial Technician Certificate
ITE	-	Institute of Technical Education
MOST	-	Modular Skills Training
MOU	-	Memorandum of Understanding
NTC-1	-	National Technical Certificate Grade 1
NTC-2	-	National Technical Certificate Grade 2
NTC-3	-	National Technical Certificate Grade 3
OJT	-	On-the-Job Training
Off-JT	-	Off-the-Job Training
TED	-	Technical Education Department
TIME	-	Training Initiative for Mature Employees
VITB	-	Vocational & Industrial Training Board
WISE	-	Worker Improvement through Secondary Education

Figure 1

Education and Training System in Singapore

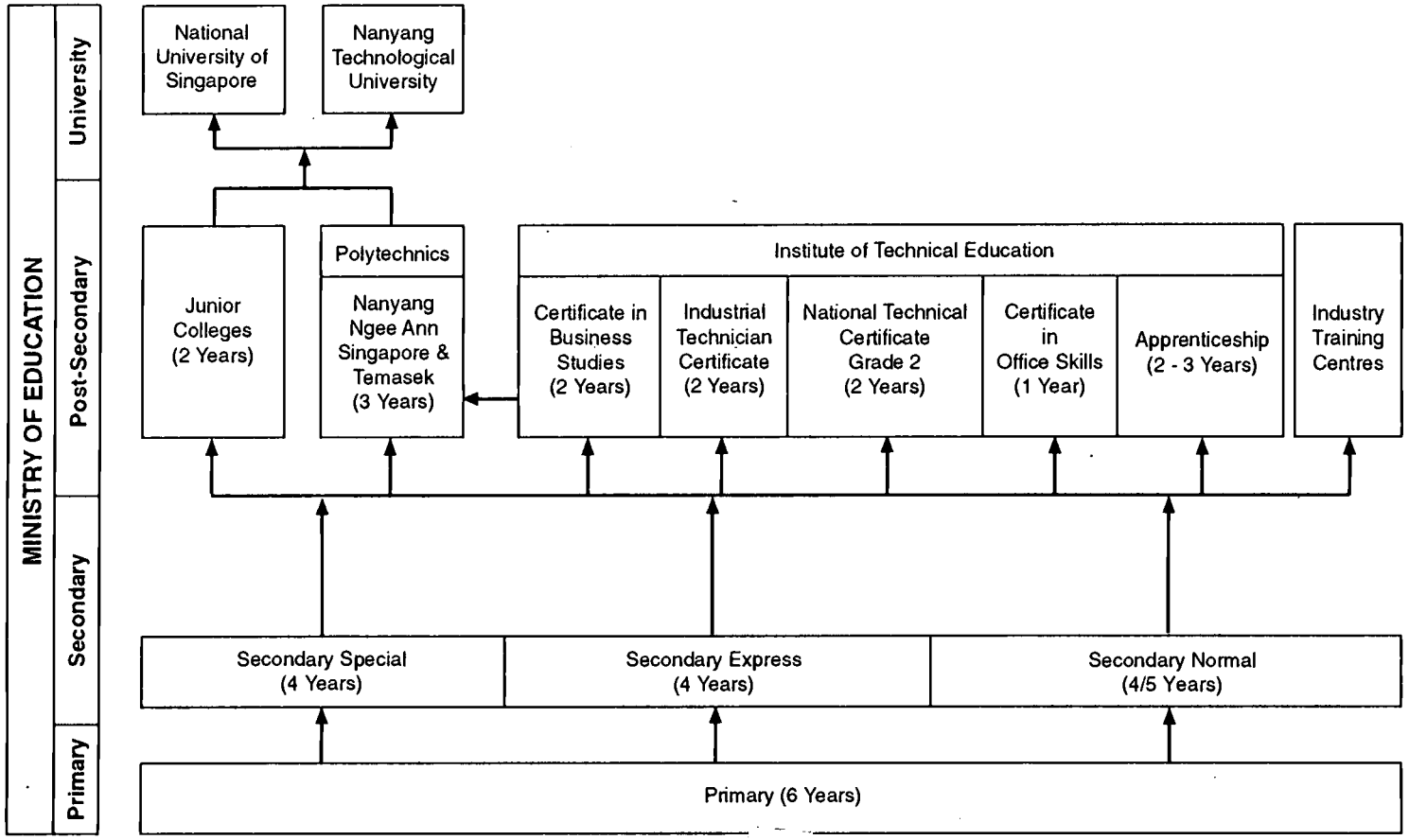

Figure 2

The ITE CET System

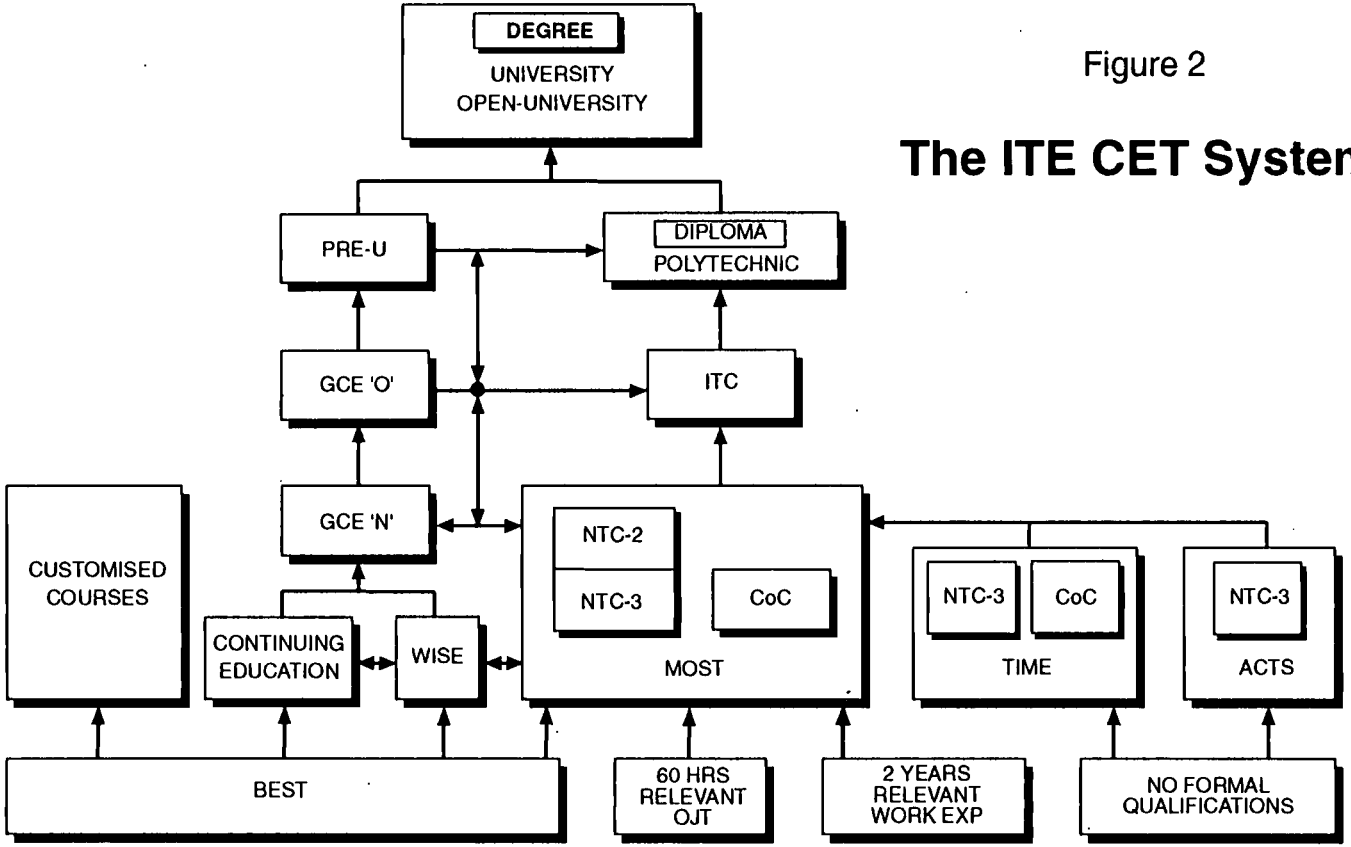

Table 1

Full-Time Institutional Training Courses

Area	Certification Level (Duration)	No of Courses	Course Title
Engineering	Industrial Technician Certificate (2 Years)	6	Electrical Engineering Electronics Engineering Manufacturing Engineering Mechanical Engineering Mechanical & Electrical Drafting & Design Mechatronics Engineering
Business Studies	Certificate in Business Studies (2 Years)	2	Accounting Secretarial
	Certificate in Office Skills (1 Year)	1	Office Skills
Technical Skills	National Technical Certificate Grade 2 (2 Years)	16	Air-Conditioning & Refrigeration Architectural Drafting Automotive Mechanics (Light Vehicles) Automotive Mechanics (Heavy Vehicles) Building Servicing Civil/Structural Drafting Electrical Installation & Servicing Electrical Power & Machines Electronics (Computer Technology) Electronics (Instrumentation) Electronics (Video Technology) Mechatronics Mechanical Servicing Precision Machining Precision Tooling (Injection Mould) Precision Tooling (Press Tool)

Table 2

Examples of Apprenticeship Courses

Sector	Cluster	Examples	
Manufacturing	Precision Engineering	NTC-2 NTC-3	Precision Machining Precision Optics
	Electrical	NTC-2/3 NTC-2	Electrical Installation & Servicing Electrical Power & Machines
	Electronics	NTC-2 CoC	Electronics (Computer Technology) Electronics Manufacturing
	Automation	NTC-2	Mechatronics
	Printing	NTC-2/3 NTC-2/3	Graphic Reproduction Offset Printing
Technical Support	Aerospace	NTC-2 NTC-2/3	Aircraft Maintenance (Electrical & Instrument Systems) Aircraft Maintenance (Airframe & Engine Systems)
	Automotive	NTC-2 NTC-2 CoC	Automotive Mechanics (Light Vehicles) Automotive Mechanics (Heavy Vehicles) Motocycle Mechanics
	Building/Drafting Services	NTC-2 NTC-2	Architectural Drafting Building Servicing
	Marine & Fabrication	NTC-2/3 NTC-3	Marine Mechanics Metal Fabrication
	Mechanical & Maintenance	NTC-2 NTC-2	Air-Conditioning & Refrigeration Lift & Escalator Mechanics
Finance & Business	Business Services	Certificate in Office Skills Certificate in Logistics Operations	
Service	Hairstyling	NTC-2/3	Hairstyling
	Retail Sales	Certificate in Retailing (Sales & Customer Service)	
	Medical Services	Certificate in Health Care (In-patient) Certificate in Health Care (Outpatient)	

Table 3

Worker Education and Training Programmes

Programme	Year Launched	Target Groups
Worker Education		
BEST (primary level)	1983	Workers who have less than a basic secondary education.
WISE (secondary level)	1987	
Continuing Education Programme	1970	Workers who wish to upgrade academic qualifications up to GCE 'N', 'O' or 'A' levels.
Skills Training		
MOST	1986	Unskilled or semi-skilled workers who wish to learn basic technical skills, acquire new skills or upgrade existing skills.
TIME	1992	Workers aged 40 and above who wish to learn basic technical skills.
ACTS	1993	Adult workers aged 20-40 with prior experience who wish to upgrade technical skills.
ITC	1979	Workers who wish to be trained as technicians.
Continuing Training Courses	1991	Workers who wish to update their skills through short courses.
Customised Training	1987	Companies which require training tailored to their needs.
On-the-Job Training		
COJTC System	1994	Companies which seek recognition for OJT training conducted at the workplace.

Table 4

Key Initiatives

1980	• Development of Training Institutions • Approved Training Centres
1981	• Higher-Level (NTC-2) Skills Courses • Business Studies (CBS) Courses • Centre of Vocational Training
1983	• Close Linkages with School System • Basic Vocational Training • Worker Education and Training Programmes [BEST (83), MOST (87), WISE (87), TIME (92), ACTS (93)]
1984	• Multi-Skills & Broad-Based Training
1986	• Certificate of Vocational Training
1987	• NTC-1 Training • VITB Strategic Plan
1989	• National Framework for Certifying Service Skills • Training Institute Advisory Committees
1990	• New Apprenticeship Training System
1991	• MOU between VITB and Ministry of Education, Baden Wurttemberg, Germany
1992	• Formation of ITE as a Post-Secondary Institution
1993	• Review of CET Programmes
1994	• System of Certified OJT Centres • National Skills Competitions
1995	• ITE 2000 Plan

REFERENCES

Buang Z, Making the MOST of Training, MIRROR,
Vol 22, No 21, Nov 1986.

Chin E, The Workforce Gets WISE, MIRROR,
Vol 22, No 24, Mar 1988.

Ministry of Trade & Industry Singapore, Report of the Economic Committee, The Singapore Economy: New Directions, Feb 1986.

National Productivity Board Singapore, Initiatives for Reskilling the Workforce, May 1987.

Law S S, Vocational Training in Singapore,
VITB Paper No 6, Vocational & Industrial Training Board,
Singapore, 1990.

Law S S, (Chairman), Report of VITB Review Committee on"Upgrading Vocational Training", Vocational & Industrial Training Board, 1991.

Law S S, (Chairman), Report of CET Review Committee on"Improving Worker Training", ITE, 1994.

Law S S, (Chairman), ITE 2000 Plan, ITE, 1995

Designed by Graphics Unit, ITE

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

ERIC®
CE075105

REPRODUCTION RELEASE
(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: Dynamics and Challenges of A Vocational Training System – The Singapore Experience	
Author(s): Dr Song Seng LAW	
Corporate Source: ITE Paper No. 2, Singapore	Publication Date: 1996

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following two options and sign at the bottom of the page.

	The sample sticker shown below will be affixed to all **Level 1** documents	The sample sticker shown below will be affixed to all **Level 2** documents	
☑ Check here **For Level 1 Release:** Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical) *and* paper copy.	PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY Sample TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)	PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY Sample TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)	☐ Check here **For Level 2 Release:** Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical), but *not* in paper copy.
	Level 1	**Level 2**	

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at **Level 1.**

"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries."

Sign here→ please	Signature:	Printed Name/Position/Title: Dr Song Seng Law Director & CEO	
	Organization/Address: Institute of Technical Education 10 Dover Drive SINGAPORE 138683	Telephone: (65) 7720801	FAX: (65) 8721942
		E-Mail Address: lawss@ite.edu.sg	Date: 5 JAN 1998

(over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

Associate Director for Database Development
ERIC Clearinghouse on Adult, Career, and Vocational Education
Center on Education and Training for Employment
1900 Kenny Road
Columbus, OH 43210-1090

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to: